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## In the Specification:

A2 At page 24, line 2, after "CompareOverWins." insert --SEQ ID NO:360, SEQ ID NO:361, SEQ ID NO:362, SEQ ID NO:363, SEQ ID NO:364, SEQ ID NO:365, and SEQ ID NO:366 are shown left to right.--

At page 25, line 10, after "energy" insert --(SEQ ID NO:367 is shown)--.

A3 At page 25, line 30, after "A site.", insert --SEQ ID NO:37 (top) and SEQ ID NO:38 (bottom) are shown.--

A4 At page 26, line 7, after "1919.0" insert (SEQ ID NO:368, SEQ ID NO:369 and SEQ ID NO:370 are shown left to right)--.

A5 At page 26, line 15, after "DNA:DNA duplex.", insert --SEQ ID NO:39 (top) and SEQ ID NO:40 (bottom) are shown in Figure 47. SEQ ID NO:41 (top), SEQ ID NO:42 (middle), and SEQ ID NO:43 (bottom) are shown in Figure 48.--

A6 At page 27, line 8, after "5' UTR.", insert --SEQ ID NO:44, SEQ ID NO:45, SEQ ID NO:46, SEQ ID NO:47, SEQ ID NO:48, SEQ ID NO:49, SEQ ID NO:50, and SEQ ID NO:51 are shown top to bottom, respectively.--

A7 At page 27, line 12, after "5' UTR structure.", insert --SEQ ID NO:52, SEQ ID NO:53, SEQ ID NO:54, SEQ ID NO:55, SEQ ID NO:56, SEQ ID NO:57, SEQ ID NO:58, SEQ ID NO:59, SEQ ID NO:60, SEQ ID NO:61, and SEQ ID NO:62 are shown top to bottom, respectively.--

A8 At page 27, line 18, after "3' UTR.", insert --SEQ ID NO:63, SEQ ID NO:64, SEQ ID NO:65, SEQ ID NO:66, SEQ ID NO:67, SEQ ID NO:68, SEQ ID NO:69, SEQ ID NO:70, SEQ ID NO:71, SEQ ID NO:72, SEQ ID NO:73, SEQ ID NO:74, SEQ ID NO:75, SEQ ID NO:76, SEQ ID NO:77, SEQ ID NO:78, and SEQ ID NO:79 are shown top to bottom, respectively.--

At page 27, line 19, after "3' UTR" insert --SEQ ID NO:371--.

A9 At page 27, line 20, after "3' UTR.", insert --SEQ ID NO:80, SEQ ID NO:81, SEQ ID NO:82, SEQ ID NO:83, SEQ ID NO:84, SEQ ID NO:85, SEQ ID NO:86, SEQ ID NO:87, SEQ ID NO:88, SEQ ID NO:89, SEQ ID NO:90, SEQ ID NO:91, SEQ ID NO:92, SEQ ID NO:93, SEQ ID NO:94, SEQ ID NO:95, SEQ ID NO:96, and SEQ ID NO:97 are shown top to bottom, respectively.--

At page 27, line 21, after "3' UTR" insert --SEQ ID NO:372--.

At page 27, line 22, after "3' UTR" insert --SEQ ID NO:373--.

A<sup>10</sup>  
At page 27, line 25, after "3' UTR.", insert --SEQ ID NO:98, SEQ ID NO:99, SEQ ID NO:100, SEQ ID NO:101, SEQ ID NO:102, SEQ ID NO:103, SEQ ID NO:104, SEQ ID NO:105, SEQ ID NO:106, SEQ ID NO:107, SEQ ID NO:108, SEQ ID NO:109, SEQ ID NO:110, SEQ ID NO:111, SEQ ID NO:112, and SEQ ID NO:113 are shown top to bottom, respectively.--.

A<sup>11</sup>  
At page 27, line 27, after "3' UTR.", insert --SEQ ID NO:114, SEQ ID NO:115, SEQ ID NO:116, SEQ ID NO:117, SEQ ID NO:118, SEQ ID NO:119, SEQ ID NO:120, SEQ ID NO:121, SEQ ID NO:122, SEQ ID NO:123, SEQ ID NO:124, SEQ ID NO:125, SEQ ID NO:126, SEQ ID NO:127, SEQ ID NO:128, SEQ ID NO:129, and SEQ ID NO:130 are shown top to bottom, respectively.--.

At page 27, line 28, after "3' UTR" insert --SEQ ID NO:374--.

At page 27, line 29, after "3' UTR" insert --SEQ ID NO:383--.

A<sup>12</sup>  
At page 27, line 30, after "3' UTR.", insert --SEQ ID NO:131, SEQ ID NO:132, SEQ ID NO:133, SEQ ID NO:134, SEQ ID NO:135, SEQ ID NO:136, SEQ ID NO:137, SEQ ID NO:138, SEQ ID NO:139, and SEQ ID NO:140 are shown top to bottom, respectively.--.

A<sup>13</sup>  
At page 28, line 2, after "UTR.", insert --SEQ ID NO:141, SEQ ID NO:142, SEQ ID NO:143, SEQ ID NO:144, SEQ ID NO:145, SEQ ID NO:146, SEQ ID NO:147, SEQ ID NO:148, SEQ ID NO:149, SEQ ID NO:150, and SEQ ID NO:151 are shown top to bottom, respectively.--.

A<sup>14</sup>  
At page 28, line 7, after "3' UTR.", insert --SEQ ID NO:152, SEQ ID NO:153, and SEQ ID NO:154 are shown top to bottom, respectively.--.

A<sup>15</sup>  
At page 28, line 9, after "3' UTR.", insert --SEQ ID NO:155, SEQ ID NO:156, SEQ ID NO:157, and SEQ ID NO:158 are shown top to bottom, respectively.--.

At page 28, line 11, after "3' UTR" insert --SEQ ID NO:375--.

A<sup>16</sup>  
At page 28, line 15, after "3' UTR.", insert --SEQ ID NO:159, SEQ ID NO:160, and SEQ ID NO:161 are shown top to bottom, respectively.--.

A<sup>17</sup>  
At page 28, line 17, after "3' UTR.", insert --SEQ ID NO:162, SEQ ID NO:163, SEQ ID NO:164, and SEQ ID NO:165 are shown top to bottom, respectively.--.

At page 28, line 19, after "3' UTR" insert --SEQ ID NO:376--.

At page 28, line 23, after "3' UTR.", insert --SEQ ID NO:166, SEQ ID NO:167, and SEQ

A<sup>18</sup> ID NO:168 are shown top to bottom, respectively.--.

At page 28, line 25, after "3' UTR.", insert --SEQ ID NO:169, SEQ ID NO:170, SEQ ID

A<sup>19</sup> NO:171, and SEQ ID NO:172 are shown top to bottom, respectively.--.

At page 28, line 27, after "3' UTR" insert --SEQ ID NO:377--.

At page 28, line 31, after "3' UTR.", insert --SEQ ID NO:173, SEQ ID NO:174, and SEQ

A<sup>20</sup> ID NO:175 are shown top to bottom, respectively.--.

At page 29, line 2, after "3' UTR.", insert --SEQ ID NO:176, SEQ ID NO:177, SEQ ID

A<sup>21</sup> NO:178, and SEQ ID NO:179 are shown top to bottom, respectively.--.

At page 29, line 4, after "3' UTR" insert --SEQ ID NO:378--.

At page 29, line 8, after "3' UTR.", insert --SEQ ID NO:180, SEQ ID NO:181, and SEQ

A<sup>22</sup> ID NO:182 are shown top to bottom, respectively.--.

At page 29, line 10, after "3' UTR.", insert --SEQ ID NO:183, SEQ ID NO:184, SEQ ID

A<sup>23</sup> NO:185, and SEQ ID NO:186 are shown top to bottom, respectively.--.

At page 29, line 12, after "3' UTR" insert --SEQ ID NO:379--.

At page 29, line 14, after "3' UTR" insert --(SEQ ID NO:380 and SEQ ID NO:381 are

A<sup>24</sup> shown left to right)--.

At page 29, line 16, after "3' UTR.", insert --SEQ ID NO:187, SEQ ID NO:188, SEQ ID

A<sup>25</sup> NO:189, SEQ ID NO:190, SEQ ID NO:191, SEQ ID NO:192, SEQ ID NO:193, SEQ ID NO:194,

SEQ ID NO:195, SEQ ID NO:196, SEQ ID NO:197, SEQ ID NO:198, and SEQ ID NO:199 are

shown top to bottom, respectively.--.

At page 29, line 26, after "3' UTR.", insert --SEQ ID NO:200, SEQ ID NO:201, SEQ ID

A<sup>26</sup> NO:202, SEQ ID NO:203, SEQ ID NO:204, SEQ ID NO:205, SEQ ID NO:206, SEQ ID NO:207,

SEQ ID NO:208, SEQ ID NO:209, SEQ ID NO:210, SEQ ID NO:211, and SEQ ID NO:212 are

shown top to bottom, respectively.--.

A<sup>27</sup> At page 29, line 30, after "3' UTR.", insert --SEQ ID NO:213, SEQ ID NO:214, SEQ ID NO:215, SEQ ID NO:216, SEQ ID NO:217, and SEQ ID NO:218 are shown top to bottom, respectively.--.

A<sup>28</sup> At page 30, line 2, after "3' UTR.", insert --SEQ ID NO:219, SEQ ID NO:220, SEQ ID NO:221, SEQ ID NO:222, SEQ ID NO:223, SEQ ID NO:224, and SEQ ID NO:225 are shown top to bottom, respectively.--.

A<sup>29</sup> At page 30, line 7, after "3' UTR.", insert --SEQ ID NO:226, SEQ ID NO:227, SEQ ID NO:228, SEQ ID NO:229, SEQ ID NO:230, SEQ ID NO:231, SEQ ID NO:232, SEQ ID NO:233, SEQ ID NO:234, and SEQ ID NO:235 are shown top to bottom, respectively.--.

A<sup>30</sup> At page 30, line 8, after "3' UTR.", insert --SEQ ID NO:236, SEQ ID NO:237, SEQ ID NO:238, SEQ ID NO:239, SEQ ID NO:240, SEQ ID NO:241, SEQ ID NO:242, SEQ ID NO:243, SEQ ID NO:244, SEQ ID NO:245, and SEQ ID NO:246 are shown top to bottom, respectively.--.

A<sup>31</sup> At page 30, line 10, after "3' UTR.", insert --SEQ ID NO:247, SEQ ID NO:248, SEQ ID NO:249, SEQ ID NO:250, SEQ ID NO:251, SEQ ID NO:252, SEQ ID NO:253, SEQ ID NO:254, SEQ ID NO:255, SEQ ID NO:256, SEQ ID NO:257, SEQ ID NO:258, SEQ ID NO:259, SEQ ID NO:260, SEQ ID NO:261, SEQ ID NO:262, and SEQ ID NO:263 are shown top to bottom, respectively.--.

A<sup>32</sup> At page 30, line 11, after "3' UTR.", insert --SEQ ID NO:264, SEQ ID NO:265, SEQ ID NO:266, SEQ ID NO:267, SEQ ID NO:268, SEQ ID NO:269, SEQ ID NO:270, SEQ ID NO:271, SEQ ID NO:272, SEQ ID NO:273, SEQ ID NO:274, SEQ ID NO:275, SEQ ID NO:276, SEQ ID NO:277, SEQ ID NO:278, and SEQ ID NO:279 are shown top to bottom, respectively.--.

A<sup>33</sup> At page 30, line 14, after "3' UTR.", insert --SEQ ID NO:280, SEQ ID NO:281, SEQ ID NO:282, SEQ ID NO:283, SEQ ID NO:284, SEQ ID NO:285, and SEQ ID NO:286 are shown top to bottom, respectively.--.

A<sup>34</sup> At page 30, line 15, after "3' UTR.", insert --SEQ ID NO:287, SEQ ID NO:288, SEQ ID NO:289, SEQ ID NO:290, SEQ ID NO:291, SEQ ID NO:292, SEQ ID NO:293, and SEQ ID NO:294 are shown top to bottom, respectively.--.

*A<sup>35</sup>* At page 30, line 19, after "5' UTR.", insert --SEQ ID NO:295, SEQ ID NO:296, SEQ ID NO:297, SEQ ID NO:298, SEQ ID NO:299, SEQ ID NO:300, SEQ ID NO:301, SEQ ID NO:302, SEQ ID NO:303, SEQ ID NO:304, SEQ ID NO:305, SEQ ID NO:306, SEQ ID NO:307, and SEQ ID NO:308 are shown top to bottom, respectively.--

*A<sup>34</sup>* At page 30, line 20, after "5' UTR.", insert --SEQ ID NO:309, SEQ ID NO:310, SEQ ID NO:311, SEQ ID NO:312, SEQ ID NO:313, SEQ ID NO:314, SEQ ID NO:315, SEQ ID NO:316, SEQ ID NO:317, SEQ ID NO:318, SEQ ID NO:319, SEQ ID NO:320, SEQ ID NO:321, SEQ ID NO:322, and SEQ ID NO:323 are shown top to bottom, respectively.--

*A<sup>37</sup>* At page 30, line 23, after "3' UTR.", insert --SEQ ID NO:324, SEQ ID NO:325, SEQ ID NO:326, SEQ ID NO:327, SEQ ID NO:328, SEQ ID NO:329, SEQ ID NO:330, SEQ ID NO:331, SEQ ID NO:332, SEQ ID NO:333, SEQ ID NO:334, SEQ ID NO:335, SEQ ID NO:336, SEQ ID NO:337, SEQ ID NO:338, SEQ ID NO:339, and SEQ ID NO:340 are shown top to bottom, respectively.--

*A<sup>30</sup>* At page 30, line 24, after "3' UTR.", insert --SEQ ID NO:341, SEQ ID NO:342, SEQ ID NO:343, SEQ ID NO:344, SEQ ID NO:345, SEQ ID NO:346, SEQ ID NO:347, SEQ ID NO:348, SEQ ID NO:349, SEQ ID NO:350, SEQ ID NO:351, SEQ ID NO:352, SEQ ID NO:353, SEQ ID NO:354, SEQ ID NO:355, SEQ ID NO:356, SEQ ID NO:357, and SEQ ID NO:358 are shown top to bottom, respectively.--

At page 31, line 25, after "eukaryotic" insert --SEQ ID NO:382--.

At page 31, line 25, after "prokaryotic" insert --SEQ ID NO:35--.

At page 71, line 21, prior to "as the model", insert --(SEQ ID NO:359)--.

At page 144, line 4, after "Sequence", insert --(SEQ ID NO:1)--. *which one, two on this line*

At page 144, line 12, after "Sequence", insert --(SEQ ID NO:2)--.

At page 145, line 19, after "Sequence", insert --(SEQ ID NO:3)--.

At page 145, line 24, after "Sequence", insert --(SEQ ID NO:4)--.

At page 145, line 27, after "Sequence", insert --(SEQ ID NO:5)--.

At page 145, line 29, after "Sequence", insert --(SEQ ID NO:6)--.

At page 146, line 26, after "Sequence", insert --(SEQ ID NO:7)--.

At page 146, line 30, after "Sequence", insert --(SEQ ID NO:8)--.

At page 147, line 1, after "Sequence", insert --(SEQ ID NO:9)--.

At page 147, line 2, after "Sequence", insert --(SEQ ID NO:10)--.

At page 147, line 22, after "Sequence", insert --(SEQ ID NO:11)--.

At page 147, line 25, after "Sequence", insert --(SEQ ID NO:12)--.

At page 147, line 26, after "Sequence", insert --(SEQ ID NO:13)--.

At page 147, line 27, after "CAAGCAUUUAUAGCUUGU", insert --(SEQ ID NO:14)--.

At page 147, line 28, after "Sequence", insert --(SEQ ID NO:15)--.

At page 149, line 9, after "Sequence", insert --(SEQ ID NO:16)--.

At page 149, line 15, after "Sequence", insert --(SEQ ID NO:17)--.

At page 150, line 11, after "Sequence", insert --(SEQ ID NO:18)--.

At page 150, line 15, after "Sequence", insert --(SEQ ID NO:19)--.

At page 151, line 16, after "Sequence", insert --(SEQ ID NO:20)--.

At page 151, line 21, after "Sequence", insert --(SEQ ID NO:21)--.

At page 151, line 23, after "Sequence", insert --(SEQ ID NO:22)--.

At page 152, line 21, after "Sequence", insert --(SEQ ID NO:23)--.

At page 152, line 25, after "Sequence", insert --(SEQ ID NO:24)--.

At page 152, line 26, after "Sequence", insert --(SEQ ID NO:25)--.

At page 153, line 29, after "Sequence", insert --(SEQ ID NO:26)--.

At page 154, line 2, after "Sequence", insert --(SEQ ID NO:27)--.

At page 154, line 3, after "Sequence", insert --(SEQ ID NO:28)--.

At page 154, line 5, after "GGCG", insert --(SEQ ID NO:29)--.

At page 154, line 5, after "GAGACCCAAAUCUGUCACAAUGAAAC", insert --(SEQ ID NO:30)--.

At page 155, line 1, after "Sequence", insert --(SEQ ID NO:31)--.

At page 155, line 4, after "Sequence", insert --(SEQ ID NO:32)--.

At page 155, line 5, after "AUUGCCAUAAAGGUUCUACU", insert --(SEQ ID NO:33)--.

At page 155, line 6, after "AAGGCU", insert --(SEQ ID NO:34)--.